

Application No.: 10/028,874

REMARKS/ARGUMENTS

Attached hereto is a marked up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version With Markings to Show Changes Made."

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Paragraph beginning on page 1, line 9 has been replaced with the following rewritten paragraph:

Real Time Transfer Protocol ("RTP") is the standard protocol defining the real-time transmission of media streams (e.g., voice) over data networks, such as in Voice Over IP. A companion protocol to RTP is the Real Time Control Protocol or RTCP. Referring to Fig. 1, media packets transmitted between A 100 and B 104 and vice versa during a session are formatted and transmitted (continuously) over network 108 according to RTP while additional performance information governing the communication link (e.g., key statistics about the media packets being sent and received by each endpoint (A or B) such as jitter, packet loss, round-trip time, etc.) are transmitted (discontinuously) over the network 108 according to RTCP. Endpoints A and B are typically computational components but can be or include any other form of audio or video communications interface. RTCP performance information is useful not only for the session participants, A and B, but also for a network monitor 112. Network administrators can use such information not only for network administration but also for network troubleshooting and management.

Paragraph beginning at page 3, line 14, has been replaced with the following rewritten paragraph:

These and other needs are addressed by the various embodiments and configurations of the present invention. The present invention generally matches or associates session packets communicated in a session between two or more endpoints or participants with the identities of the participants, e.g., session ids (e.g., SSRC) and/or [network] addresses of the endpoints or participants on the network or their respective network addresses (e.g., transport addresses), creating new sessions if appropriate. Each session participant is typically identified by network address (e.g., UDP port and Internet Protocol address) and/or session (e.g., SSRC) id.

Paragraph beginning on page 8, line 18 and continuing to page 9, line 5, has been replaced with the following rewritten paragraph:

The operations of the matching algorithm(s) in the monitor 300 will now be discussed with reference to Fig. 2. Referring to Fig. 2, a packet is received by the monitor in step 200. Parser 312 parses the packet to locate selected fields, which typically are the source transport address, source SSRC[id] ("the endpoint SSRC[id]"), if present the destination transport address of the other session participant (which is possibly in the application APP field), and, if present, the destination SSRC[id] of the other session participant in the receiver report blocks (the SSRC's in the receiver report blocks are hereinafter referred to as the "reception report SSRC[id]"). As will be appreciated,

the reception report is typically a report regarding the characteristics of the communication link, such as the condition of the voice stream experienced since the last reception report.

Paragraph beginning on page 10, line 9 has been replaced with the following rewritten paragraph:

If the matcher 316 receives a hit, the monitor in step 224 updates the entry for the orphan session. This is typically done by updating the other party's SSRC id (if available) and updating the associated data in the packet. As noted, each entry in the orphan session table includes at least UDP or transport address of an endpoint, an endpoint SSRC[id], and optionally reception report SSRC[id].

IN THE CLAIMS:

Claims 1-8, 10-18, 20-21, 23-24, and 27-29 have been amended as follows:

1. (Once Amended) A method for identifying a corresponding session for a packet, comprising:

(a) receiving at least a first packet communicated between first and second endpoints to a first session, the first packet comprising at least one of an [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint;

(b) comparing the at least one of an [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint in the packet with a listing of at least one of [network]electronic addresses and session ids contained in previously received packets; and

(c) when the at least one of an [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint in the packet matches an entry in the listing, determining an [network]electronic address of the second endpoint in the first session.

2. (Once Amended) The method of Claim 1, wherein the packet is transmitted from the first endpoint to a session monitor and further comprising before the comparing step (b):

(d) parsing the packet for at least one selected field; and

(e) determining whether the [network]electronic address of the second endpoint is in the selected field, wherein, when the [network]electronic address of the second endpoint is in the selected field, steps (b) and (c) are not performed and, when the [network]electronic address of the second endpoint is not in the selected field, steps (b) and (c) are performed.

3. (Once Amended) The method of Claim 1, wherein the comparing step (b) comprises the substeps of:

5 (d) comparing the at least one of an [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint in the packet with a first listing of at least one of [network]electronic addresses and session ids contained in previously received packets, the first listing corresponding to a list of active sessions for which the [network]electronic addresses of each session participant are known; and

10 (e) comparing the at least one of an [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint in the packet with a second listing of at least one of [network]electronic addresses and session ids contained in previously received packets, the second listing corresponding to a list of active sessions for which the [network]electronic address of at least one participant in a session is not known.

4. (Once Amended) The method of Claim 3, wherein in step (d), when the at least one of an [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint in the packet is in the first listing, step (e) is not performed and the first listing is updated to reflect data in the packet.

5. (Once Amended) The method of Claim 3, wherein in steps (d) and (e), when the at least one of an [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint in the packet is not in the first listing and is in the second listing, the second listing is updated to reflect data in the packet.

5 6. (Once Amended) The method of Claim 3, wherein, in steps (d) and (e), when the at least one of an [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint in the packet is not in the first and second listings, the at least one of an [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint in the packet is added to the second listing.

7. (Once Amended) The method of Claim 3, further comprising after steps (d) and (e) comparing entries in the second listing to determine whether at least two entries have a same at least one session id and [network]electronic address.

8. (Once Amended) The method of Claim 7, wherein, when at least two entries have a same at least one session ids and [network]electronic addresses, removing the entries from the second listing and adding selected information in the at least two entries to the first listing.

10. (Once Amended) A system for identifying a corresponding session for a packet, comprising:

(a) an input configured to receive at least a first packet communicated between first and second endpoints to a first session, the first packet comprising at least one of an

5 [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint; and

10 (b) a matcher configured (i) to compare the at least one of an [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint in the packet with a listing of at least one of [network]electronic addresses and session ids contained in previously received packets and (ii) to determine a [network]electronic address of the second endpoint in the first session, when the at least one of an [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint in the packet matches an entry in the listing.

11. (Once Amended) The system of Claim 10, wherein the packet is transmitted from the first endpoint to a session monitor and further comprising:

5 (c) a parser configured to parse the packet for at least one selected field; and wherein the matcher is further configured (iii) to determine whether the [network]electronic address of the second endpoint is in the selected field.

12. (Once Amended) The system of Claim 10, wherein the matcher is further configured (iii) to compare the at least one of an [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint in the packet with a first listing of at least one of [network]electronic addresses and session ids contained in previously received packets, the first listing corresponding to a list of active sessions for which the [network]electronic addresses of each session participant are known and (iv) to compare the at least one of an [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint in the packet with a second listing of at least one of [network]electronic addresses and session ids contained in previously received packets, the second listing corresponding to a list of active sessions for which the [network]electronic address of at least one participant in a session is not known.

13. (Once Amended) The system of Claim 12, wherein, when the at least one of an [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint in the packet is in the first listing, the matcher is further configured (v) to update the first listing to reflect data in the packet.

14. (Once Amended) The system of Claim 12, wherein, when the at least one of an [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint in the packet is not in the first listing and is in the second listing, the matcher is further configured (v) to update the second listing to reflect data in the packet.

15. (Once Amended) The system of Claim 12, wherein, when the at least one of an [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint in the packet is not in the first and second listings, the

- 5 matcher is further configured (v) to add the at least one of an [network]electronic address of the first endpoint, a session id of the first endpoint, and a session id of the second endpoint in the packet to the second listing.

16. (Once Amended) The system of Claim 12, wherein the matcher is further configured (v) to compare entries in the second listing to determine whether at least two entries have a same at least one session id and [network]electronic address.

17. (Once Amended) The system of Claim 16, wherein, when at least two entries have a same at least one session ids and [network]electronic addresses, the matcher is configured (vi) to add the at least two entries to the first listing.

18. (Once Amended) A method for monitoring a multi-party session, comprising:

- 5 (a) receiving, at a first endpoint, at least a first packet communicated between the first endpoint and a second endpoint to a first session, the first packet comprising an [network]electronic address of the first endpoint and an [network]electronic address of the second endpoint; and

(b) transmitting at least a second packet to a session monitor, the at least a second packet including the respective first and second [network]electronic addresses of the first and second endpoints.

20. (Once Amended) The method of Claim 18 further comprising:

- (c) receiving the transmitted packet;
(b) comparing at least one of the first and second [network]electronic addresses with a listing of at least one of [network]electronic addresses and session ids contained in previously received packets; and
5 (c) when the at least one of the first and second [network]electronic addresses is in the listing, updating the listing to reflect data in the packet and when the at least one of the first and second [network]electronic addresses is not in the listing, adding the at least one of the first and second [network]electronic addresses to the listing.

21. (Once Amended) An endpoint in a session, comprising:

- (a) an input operable to receive, at a first endpoint, at least a first packet communicated between the first endpoint and a second endpoint to a first session, the first packet comprising an [network]electronic address of the first endpoint and an [network]electronic address of the second endpoint; and
5 (b) a transmitter operable to transmit at least a second packet to a session monitor, the at least a second packet including the respective first and second [network]electronic addresses of the first and second endpoints.

23. (Once Amended) The endpoint of Claim 21 further comprising:

- (c) a second input operable to receive the transmitted second packet; and
(b) a matcher operable (i) to compare at least one of the first and second [network]electronic addresses with a listing of at least one of [network]electronic addresses and session ids contained in previously received packets; (ii), when the at least one of the first and second [network]electronic addresses is in the listing, to update the listing to reflect data in the packet and (iii), when the at least one of the first and second [network]electronic addresses is not in the listing, to add the at least one of the first and second [network]electronic addresses to the listing.

24. (Once Amended) A session packet for transmission on a network, comprising:
a source [network]electronic address of a first participant to a session;
a destination [network]electronic address associated with a session monitor;
an [network]electronic address of a second participant to the session; and
session information associated with the session.

27. (Once Amended) A method for monitoring a multi-party session, comprising:
receiving a packet from a first endpoint in a first session, the first session being between the first endpoint and a second endpoint, the packet comprising a first [network]electronic address of the first endpoint as the source, a second [network]electronic address of the second endpoint, and an [network]electronic address of a session monitor as the destination; and
inputting information in the packet in a first entry in an active session table, the first entry corresponding to the first session.

28. (Once Amended) The method of Claim 27, wherein the inputting step comprises:
comparing at least one of the first and second [network]electronic addresses to the active session table to determine whether the first session has a corresponding first entry in the active session table; and
when the active session table has no corresponding entry, creating the first entry in the active session table.

29. (Once Amended) The method of Claim 27, wherein the packet is defined by the Real Time Control Protocol and the [network]electronic address of the second endpoint is in the application field.